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Commonwealth of Puerto Rico v. SS Zoe Colocotroni: State Actions for Damage to Non-Commercial Living Natural Resources

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COMMONWEALTH OF PUERTO RICO v. SS ZOE COLOCOTRONI: STATE ACTIONS FOR DAMAGE TO NON-COMMERCIAL LIVING NATURAL RESOURCES

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I. INTRODUCTION

On March 15, 1973 the SS Zoe Colocotroni,[1] a tramp oil tanker, set sail from La Salina, Venezuela with a cargo of 187,670 barrels of crude oil.[2] The ship was bound for Guayanilla, Puerto Rico. During the first two days out, the Colocotroni proceeded by celestial navigation. A star fix taken at 6:59 p.m. on March 17, established the ship's position as approximately eighty to eighty-five miles due south of Puerto Rico. For the next eight hours the Colocotroni proceeded by dead reckoning.[3] As the ship approached the coast of Puerto Rico, the ship's Captain, Anastacios Michalopaulos, was unable to fix the Colocotroni's position. Hopelessly lost, he decided to backtrack. As the ship turned around, however, it ran aground on a reef three and a half miles off the Puerto Rican coast.[4] Efforts to refloat the vessel

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1. Hereinafter "Colocotroni."

2. The description of the events leading up to the oil spill is taken from the district and circuit court opinions, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327 (D.P.R. 1978), *aff'd in part, vacated in part, remanded,* Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980), *cert. denied,* 49 U.S.L.W. 3617 (Feb. 24, 1981).

3. "Dead reckoning" is a form of navigation in which the position of a craft is determined by projecting from a previous to a new position on the basis of direction of motion and distance traveled. A compass is used to indicate direction, while distance is usually determined indirectly by measurement of speed and time.

Generally, dead reckoning includes an allowance for estimated effects of wind and current; however, many marine navigators prefer to use course steered and estimated speed through the water (without allowance for wind effect) for their dead reckoning, considering positions determined by allowance for estimated effects of wind and current as merely "estimated positions." 4 MCGRAW-HILL ENCYCLOPEDIA OF SCIENCE AND TECHNOLOGY 18-21 (1960).

4. The exact time and location of the grounding was 0300 hours on March 18 at latitude 17°55' north, longitude 67°07' west. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1333 (D.P.R. 1978).

by "rocking" it were ineffective.[5] After ten minutes the captain decided to lighten the ship by dumping part of its cargo.[6] By the time the Colocotroni refloated, some 5,170.1 tons of crude oil or about 1.5 million gallons, were jettisoned into the Caribbean Sea.

The prevailing current off southwestern Puerto Rico carried the oil slick, which measured about one tenth of a mile wide by four miles long, westward. The oil came ashore at an isolated peninsula called Bahia Sucia.[7]

Bahia Sucia is a half-moon shaped bay in the extreme southwestern part of Puerto Rico. The distance from point to point across the mouth of the Bay is approximately two miles, while the length of the beach is about four miles.[8] The shoreline is composed mostly of rocky limestone extending to the water's edge, with some fringe coral. However, along the shore there are two mangrove swamps.[9]

The district court found that the factors which directly contributed to the ship's crew becoming hopelessly lost and grounding the ship were: "the lack of proper charts on board, the failure of the master [Captain Michalopaulos] to properly compensate for a westerly set in the current, inoperative or defective navigation equipment, the failure to post a bow lookout, and an incompetent crew." *Id.*

5. "Rocking" involves alternately running the engine full foreward and back. *Id.*

6. *Id.* Captain Michalopaulos was subsequently tried and convicted on a charge of violating 33 U.S.C. § 1321(b)(5) (1976), for failing to notify the United States government of a discharge of oil or hazardous substance into navigable waters. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1333 n.9 (D.P.R. 1978).

7. *Id.* Bahia Sucia literally means "Dirty Bay." Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 659 n.7 (1st Cir. 1980). It was so named because due to its location and configuration, as well as by reason of the prevailing winds and currents, the Bay collects and traps much debris along its shores. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1339 (D.P.R. 1978). Nevertheless, the district court found that at the time of the Colocotroni oil spill, "Bahia Sucia was a healthy, functioning esturial ecosystem . . . ." *Id.*

8. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978). The district court included a map of Bahia Sucia as an appendix to its opinion. *Id.* at 1353.

9. *Id.* at 1337-38. The mangrove swamp on the northeast side of Bahia Sucia will be referred to as the "East Mangrove," and the swamp on the west side as the "West Mangrove." These are not official names; rather they are labels that were given by the district court for easy reference. These labels were used by the circuit court, and will be used in this article.

These mangrove swamps were the only areas in which the oil slick destroyed natural resources, namely mangrove trees and various species of marine organisms which lived among the root systems of the mangroves. The district court described the Bahia Sucia mangrove areas as follows:

> The mangrove that borders on the ocean fringe throughout Bahia Sucia is a species referred to as red mangrove (*Rhizophora mangle*). This mangrove has both main and prop roots, in which are located lenticels or pores for gas exchange. These lenticels facilitate root respiration. Various epibenthic species such as tree oysters, snails, crabs, sponges and mollusks dwelled in these root systems. [Court's footnote 29: Included were annelids (*Polychaete* families of several types), arthropods (*Amphipoda, Cirripedia, Decapods [Brachyrhyncha, Majidae* and *Caridea], Isopoda, Tanaidacea),*

When the oil spill reached Bahia Sucia it apparently caused considerable harm to the swampland. Most affected was the area in and around the West Mangrove,[10] as "the mangrove root communities in that area were decimated."[11] In the aftermath of the spill, mangrove mortality was significantly increased, and there was a sizable decline in the number of marine organisms in the area.[12] It was for this damage to its living natural resources that the Commonwealth of Puerto Rico and its principal environmental agency, the Environmental Quality Board (EQB)[13] sought recovery.[14] They filed suit in the United States District Court for the District of Puerto Rico.[15]

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coelenterates (*Hydrozoa*), mollusks (*Bivalvia, Gastropoda,* and *Aspidobranchia),* sponges (*Porifera,* encrusting tan sponge), chordates (*Tunicata,* colonial and solitary; and fish larvae), algae (*Bostrichia sp.,* Filamentous Types A, B and C, *Caulerpa racemosa,* Red Filamentous Type C), roundworms (Nematode - Type A)] . . . . The bottom around the roots was inhabited by various benthic infauna. [Court's footnote 30: Included were annelids (*Polychaete* families of several types), roundworms (*Nematoda*), arthropods (*Amphipoda* and *Isopoda*), coelenterates (*Anthozoa*), echinoderms (*Ophuiroidea*), mollusks (*Bivalvia, Gastropoda,* and *Aspidolbranchia*), ribbonworms (*Nemertinea*), and sponges (*Porifera*)] . . . .

Further inland from the fringe, as the interstitial salinity rises, the red mangrove is supplanted by the black mangrove (*Avecennia nitida*). This mangrove inhabits a zone systematically flooded by the tide, and rather than prop roots, it has fingerlike breathing tubes (called neumatafors) which rise from the ground to above high water level. This area provided a habitat principally for crustaceans such as crabs and barnacles, and algae-grazing snails, bees and reptiles. There were also benthic infaunal communities similar in nature to those in the bottom surrounding the red mangrove fringe.

Id. at 1338.

10. *Id.* at 1344. The district court limited its discussion of damages to the West Mangrove area, holding that the plaintiffs failed to support their claims for damages to the East Mangrove. *Id.*

11. *Id.*

12. *Id.*

13. The EQB was created by statute in 1970, and is composed of three associate members appointed by the Governor with the advice and consent of the Senate. P.R. LAWS ANN. tit. 12 § 1129 (Supp. 1979). Its functions include: carrying out research, inspections and analyses related to the ecological system (P.R. LAWS ANN. tit. 12 § 1131(5) (1977)); developing and recommending to the Governor of Puerto Rico the public policy on environmental matters (*Id.* § 1131(4)); and conducting hearings on matters concerning the environment, at which it can compel the appearance of witnesses and the presentation of documents (*Id.* § 1134). The EQB's duties, powers, functions, etc., are set out in full at *id.* §§ 1131-1141.

14. The Commonwealth of Puerto Rico and its EQB sought damages in three areas: (1) destruction of mangrove trees; (2) destruction of marine organisms living in and around the mangroves (see note 9, *supra,* for a list of these organisms); and (3) cleanup costs. The cleanup costs were not disputed by the defendants, and will not be dealt with in this article.

15. Defendants in this action were: the SS Zoe Colocotroni "in rem," her owners — Marbonanzo Compania Naviera, S.A., and/or Colocotroni Ltd. and/or Colocotroni Brothers, S.A., and their underwriters — the West of England Ship Owners Mutual Protection and Indemnity

The case of *Commonwealth of Puerto Rico v. SS Zoe Colocotroni,*[16] raised a number of important issues, both procedural and substantive.[17] This article will focus on the two major environmental issues raised by *Zoe Colocotroni*: (1) whether a state[18] has the right to bring suit to recover damages for harm to living natural resources which it does not own; and (2) how damages should be assessed when the marine organisms and other natural resources that are destroyed have no commercial or market value, and in fact are not utilized or enjoyed by anyone. In dealing with the first issue, the opinions of the district and circuit courts will be examined; and there will be an in-depth analysis of one of the unanswered questions of *Zoe Colocotroni*: whether a state has a *common law right* to bring suit for damages when living natural resources that it does not own are destroyed. This analysis will involve an examination of the concepts of "proprietary interest," "trustee of the public trust," and "parens patriae." In dealing with the issue of damage assessment, the opinions of the district and circuit courts will be discussed in detail, and in the process, this article will outline an equitable approach to damage assessment for harm to non-commercial living natural resources.

Association (Luxembourg) and the West of England Ship Owners Mutual Insurance Association (London) Limited. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1331 (D.P.R. 1978).

A number of other suits also arose as the result of this oil spill. The United States recovered $840,366.01 in cleanup costs, interest, and statutory penalties against the ship's owners. *Id.* at 1345-52, *aff'd*, 602 F.2d 12 (1st Cir. 1979). Local fishermen settled their claim for property damage and loss of income for $55,000. Owners of an abutting salt pond settled their claim for loss of income for $75,000. A nearby hotel settled its claim for riparian damages and loss of business for $13,500. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 656 n.1 (1st Cir. 1980). A claim by the owners of the discharged petroleum was also settled for an undisclosed amount. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1331 n.1 (D.P.R. 1978).

16. Hereinafter *"Zoe Colocotroni."*

17. It is beyond the scope of this article to deal with all of the issues raised in the suit. Those issues presented which will not be discussed here include: (1) a claim by defendants that federal subsidization of plaintiffs suit constituted improper maintenance; (2) a claim by defendants that the district court abused its discretion by striking their pleadings and defenses, and precluding them from presenting any evidence at trial on issues of liability; and (3) a claim by defendants that Puerto Rico lacked personal jurisdiction over the West of England Ship Owners Mutual Protection and Indemnity Association (Luxembourg) and the West of England Ship Owners Mutual Insurance Association (London) Limited.

18. The Commonwealth of Puerto Rico is a "territory" rather than a "state" of the United States. However, it is a sovereignty organized within the legal and political framework of the United States (*see* 48 U.S.C. §§ 731-916 (1976); P.R. CONST.; P.R. LAWS ANN. tit. 1 (1965)); and it possesses many of the attributes of a "state." Ursulick v. P.R. National Guard, 384 F. Supp. 736 (D.P.R. 1974). The legal issues raised by *Zoe Colocotroni* which are dealt with in this article have equal applicability to the "states" of the United States.

II. The Right of a State to Bring Suit to Recover Damages for Harm to Living Natural Resources Which It Does Not Own

At the outset, it must be noted that the Commonwealth of Puerto Rico did own the Bahia Sucia swampland which was harmed by the oil spill.[19] Thus, the Commonwealth, like any landowner, had the right to bring an admiralty action to recover damages for the harm done to its land.[20] Not surprisingly, the Commonwealth chose not to pursue this course of action. Its decision was no doubt prompted by the fact that the damaged land was worth very little.[21] Instead, the Commonwealth sought relief "under an asserted right to recover as a governmental entity on behalf of its people for the loss of living natural resources on the land such as trees and animals."[22]

While there is little doubt that Puerto Rico owned the mangrove trees on its land and therefore could recover damages for their destruction, there is equally little doubt that Puerto Rico did not own the marine organisms which merely happened to live in the swamp.[23] The defendants in *Zoe Colocotroni* argued that since Puerto Rico did not own the damaged marine organisms, it was not entitled to recover damages for their destruction.[24] The following section will examine how the district and circuit courts dealt with this issue.

A. The District Court's Opinion and the Circuit Court's Opinion

The parties and district court Judge Juan Torruella, phrased the issue in terms of whether Puerto Rico and its EQB had "standing" to recover for damages to living natural resources.[25] The court held

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19. *See* 48 U.S.C. § 749 (1976). Under this Act, the United States transferred to Puerto Rico all the interest it had in "[t]he harbor areas and navigable streams and bodies of water and submerged lands underlying the same in and around the island of Puerto Rico . . . ." *Id.*

20. It is well established that the owner of property has a right to sue for damages when his property is harmed by a wrongdoer. *See, e.g.,* RESTATEMENT (SECOND) OF TORTS § 871 (intentional harm to property) and § 822(b), Comments i and k (negligent harm to property) (1979); and C. MCCORMICK, HANDBOOK OF THE LAW OF DAMAGES 165 (1935). Furthermore, there would be no jurisdictional problems with such a suit by Puerto Rico. *See* 46 U.S.C. § 740 (1976).

21. Defendants introduced evidence at trial that property in the vicinity of Bahia Sucia had been sold at prices ranging from $3,000 to $5,670 per acre. Post Trial Brief of Defendants at 33, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327 (D.P.R. 1978).

22. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 670-71 (1st Cir. 1980).

23. *See* Hughes v. Oklahoma, 441 U.S. 322 (1979). For a discussion of Puerto Rico's "proprietary interest," or lack thereof, in the marine organisms, see text at notes 50-66 *infra.*

24. Brief for Appellant at 57-59, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

25. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1336-37 (D.P.R. 1978). Perhaps the best description of the concept of standing is a passage from

that Puerto Rico did have "standing" to bring suit because it had a "proprietary interest" in the damaged natural resources,[26] and because it was the "trustee of the public trust" in these resources.[27] Additionally, the court ruled that Puerto Rico could maintain the suit in its capacity as "parens patriae."[28] The district court did not devote much time to an analysis of Puerto Rico's right to bring suit, however. The court's discussion of this difficult issue is basically conclusory, and not very helpful.

The district court's holding with regard to the EQB was equally summary, though with better reason. Dealing with the issue in one sentence, the court held that the EQB had standing to sue for environmental damages on the basis of its enabling statute.[29] Given the

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Carolina Environmental Study Group v. United States, 431 F. Supp. 203 (D.N.C. 1977), where the court said that standing is "a requirement that the plaintiffs have been injured or be threatened with injury; . . . [it] focuses upon the litigant and raises the question whether the litigant is the proper party to fight the lawsuit, not the question whether the issue itself is justiciable." *Id.* at 218-19. The Supreme Court has said that standing is a question of whether the plaintiff has "alleged such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination of difficult . . . questions . . . ." Baker v. Carr, 369 U.S. 186, 204 (1962).

26. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978) citing State of Maine v. M/V Tamano, 357 F. Supp. 1097, 1098-99 (D. Me. 1973), State, Department of Fish & Game v. SS Bournemouth, 307 F. Supp. 922, 926-30 (C.D. Cal. 1969).

27. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978), citing Geer v. Connecticut, 161 U.S. 519, 534 (1859); State of Maryland, Department of Natural Resources v. Amerada Hess Corp., 350 F. Supp. 1060, 1065-67 (D. Md. 1972); State Department of Environmental Protection v. Jersey Central Power & Light Co., 124 N.J. Super. 97, 308 A.2d 671 (1973).

28. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978), citing Missouri v. Illinois, 180 U.S. 208, 241 (1901); Louisiana v. Texas, 176 U.S. 1 (1900); Georgia v. Pennsylvania R. Co., 324 U.S. 439, 447 (1945); Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907); Maine v. M/V Tamano, 357 F. Supp. 1097 (D. Me. 1973).

The issue of Puerto Rico's right to bring suit, and the doctrines of "proprietary interest," "trustee of the public trust," and "parens patriae," are discussed in greater detail in the text at notes 50-113 *infra*.

29. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978). The enabling statute, P.R. LAWS ANN. tit. 12 § 1131(29) (1977), states that the EQB has power:

> To bring, represented by the Secretary of Justice, by the Board's attorneys, or by a private attorney contracted for such purpose, civil actions for damages in any court of Puerto Rico or the United States of America to recover the total value of the damages caused to the environment and/or natural resources upon committing any violation of this chapter and its regulations. The amount of the judgment collected to such effect shall be covered into the Special Account of the Board on Environmental Quality.

The district court also noted that the EQB could not recover damages separate and apart from the Commonwealth. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1337 (D.P.R. 1978).

explicit language of the enabling statute, it is clear that the EQB did have the right to bring suit in *Zoe Colocotroni.*

The circuit court, on the other hand, engaged in considerably more legal analysis of the issue of the Commonwealth's and the EQB's right to bring suit. First, the court stated that it believed the issue was more properly a question of whether the plaintiffs' claim stated a "cognizable cause of action," than whether the plaintiffs had "standing."[30] Citing *Davis v. Passman*[31] the circuit court determined that the plaintiffs' Article III standing was not in question: "assuming plaintiffs have a valid cause of action, they clearly are the proper parties to raise it."[32] The court did not, however, explain its reasoning on this point.

Although the circuit court's discussion of the matter is brief and somewhat confusing, the court's conclusion appears correct. The issue here is whether the Commonwealth of Puerto Rico can bring suit for damages for harm to marine organisms which lived on its land, but which technically it did not own.[33] There are three related legal concepts which are involved in this issue: standing, cause of action, and right of action. These concepts are "among the most amorphous in the entire domain of public law,"[34] and it is beyond the scope of this article to analyze them in-depth. For present purposes it is sufficient to note that *standing* is basically a question of whether the plaintiff is the *proper party* to raise a claim.[35] A party is granted standing when a court determines that the party "has a sufficient stake in an otherwise justiciable controversy to obtain judicial resolu-

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30. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 670 (1st Cir. 1980).

31. 442 U.S. 228 (1979). In Davis v. Passman, the Supreme Court rather unhelpfully distinguished "standing" from "cause of action" as follows:

> [s]tanding is a question of whether a plaintiff is sufficiently adversary to a defendant to create an Article III case or controversy, or at least to overcome prudential limitations on federal-court jurisdiction . . . . *[C]ause of action* is a question of whether a particular plaintiff is a member of the class of litigants that may, as a matter of law, appropriately invoke the power of the court. *Id.* at 239-40 n.18.

32. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 670 n.19 (1st Cir. 1980).

33. The question whether Puerto Rico "owned" or had a "proprietary interest" in the marine organisms, is discussed in the text at notes 50-66 *infra.* At present it is sufficient to note that the case of Hughes v. Oklahoma, 441 U.S. 322 (1979), establishes that the Commonwealth did *not* have an ownership or proprietary interest in the marine organisms.

34. Albert, *Standing to Challenge Administrative Action: An Inadequate Surrogate for Claim for Relief,* 83 YALE L.J. 425, 425 n.1 (1974), *quoting, Hearings on S. 2097 Before the Subcomm. on Constitutional Rights of the Senate Comm. on the Judiciary,* 89th Cong., 2d Sess., pt. 2 at 498 (1966) (statements of Prof. Paul Freund on "standing").

35. See note 25 *supra.* For a thoughtful and interesting discussion of the concept of standing, *see* Albert, *supra* note 34.

tion of that controversy."[36] *Cause of action* can be defined as a "situation or state of facts which would entitle a party to sustain an action and give him the right to seek judicial interference in his behalf."[37] Not every act or occurrence entitles a party to institute a judicial proceeding; thus, a cause of action is the fact or facts which give a party a right to judicial relief. A *right of action* is "a right presently to enforce a cause of action by suit,"[38] or more simply, the legal right to sue. Thus, a cause of action, and standing, are necessary elements of a right of action.

In *Zoe Colocotroni*, the question whether Puerto Rico could bring suit for damages has elements of both a standing and a cause of action problem. However, since living natural resources of ecological value were destroyed by the Colocotroni oil spill,[39] it appears that the Commonwealth of Puerto Rico suffered an injury sufficient to meet the Article III "case or controversy" standing requirement. Moreover, it certainly could not be argued that there is any other party more adverse who could bring suit for the destruction of the marine organisms. The organisms lived on land which Puerto Rico owned, and the Commonwealth certainly has an interest in seeing to it that polluters who harm those resources pay for that harm. To be sure, it has been held that the mere fact that there is no other party "more adverse" than the plaintiff is not dispositive on the issue of standing.[40] However, a more illuminating view is that once it is determined that there is no other party more adverse than the plaintiff, then the court's inquiry on the plaintiff's right to bring suit is actually focused on the question whether the plaintiff has a cause of action.[41] Under this approach, it is clear that in *Zoe Colocotroni*, the issue of Puerto Rico's right to sue for damages is a cause of action issue rather than a standing issue.[42] Phrased accordingly the issue is:

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36. Sierra Club v. Morton, 405 U.S. 727, 731 (1972). This is the threshold "case or controversy" requirement of Article III of the Constitution.

37. Thompson v. Zurich Insurance Company, 309 F. Supp. 1178, 1181 (D. Minn. 1970), citing Rhodes v. Jones, 351 F.2d 884, 886 (8th Cir. 1965).

38. McMahon v. United States, 186 F.2d 227, 230 (3rd Cir. 1950).

39. See text at note 102 *infra*.

40. United States v. Richardson, 418 U.S. 166, 179 (1974). The Court in *Richardson* held that the absence of any party more adverse than the plaintiff was not sufficient reason to find standing. *Id.* at 179.

41. Albert, *supra* note 34, argues that standing should be viewed as being concerned with components of a cause of action.

42. It must be emphasized that this is only one approach to the problem. One could argue persuasively that the issue of Puerto Rico's right to bring suit is a standing problem. However, the resolution of this substantive issue would *not* be determined by the label that one pins on it.

does Puerto Rico (or any state) have a cause of action when living natural resources which it does not own are destroyed?

The plaintiffs in *Zoe Colocotroni* claimed that Puerto Rico's regulatory interest in its living natural resources, expressed metaphorically in the Commonwealth's status as "public trustee" of the resources,[43] gave rise to a cause of action. The defendants argued that the Commonwealth was not the public trustee of the marine organisms, and that even if it were, its status would not support a cause of action.[44] Unfortunately, the circuit court did not resolve this issue. The court concluded that it did not have to decide whether the Commonwealth had a cause of action, because it found that the EQB did.[45] Citing the EQB's enabling statute,[46] the circuit court stated "[w]e read this statute both as creating a cause of action of the type described by its terms and as designating the EQB as the proper party to bring such an action."[47] The court continued,

> [w]hatever might be the case in the absence of such a local statute, we think that where the Commonwealth of Puerto Rico has thus legislatively authorized the bringing of suits for environmental damages, and has earmarked funds so recovered to a special fund, such an action must be construed as taking the place of any implied common law action the Commonwealth, as trustee, might have brought. Any other construction would invite the risk of double recovery and lead to confusion as to the rights of the two state plaintiffs in their identical or nearly identical actions. It is unnecessary, therefore, for us to consider whether, had the legislature of Puerto Rico not delegated to the EQB the right to maintain such suits, the Commonwealth would have an inherent right to bring them itself.[48]

Thus, the circuit court held that the cause of action granted to the EQB in its enabling statute was intended to replace any common law cause of action which might have existed prior to its enactment, and that this statutory cause of action precluded the bringing of any action at common law. However, the circuit court did not resolve the question whether, in the absence of a statutory cause of action, a

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43. The doctrine of "trustee of the public trust" is discussed in the text at notes 67-91 *infra*.

44. Brief for Appellants at 59-60, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980); and Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671 (1st Cir. 1980).

45. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671-72 (1st Cir. 1980).

46. P.R. LAWS ANN. tit. 12 § 1131(29) (1977). This statute is set out in full at note 29 *supra*.

47. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671-72 (1st Cir. 1980).

48. *Id.* at 672.

state would have a common law cause of action to recover for environmental damages to living natural resources which it does not own. The following section seeks to answer that question.

B. The Unanswered Question: Does a State Have a Common Law Cause of Action?

The district court in *Zoe Colocotroni* held that Puerto Rico could maintain its suit: (1) because it had a "proprietary interest" in the damaged natural resources; (2) because it was the "trustee of the public trust" in these resources; and (3) in its capacity as "parens patriae."[49] In order to determine whether a state has a common law cause of action these three doctrines must be examined in detail.

1. Proprietary Interest

"Proprietary interest" is defined as "the interest of an owner of property together with all rights appurtenant thereto."[50] In essence, proprietary interest is synonymous with ownership. It is a basic maxim of tort law that a property owner can sue to recover damages when his property is harmed by a wrongdoer.[51] Thus, if a state could show that it had a proprietary interest in its living natural resources, it would have a cause of action when those resources were damaged.

A survey of the case law reveals that early Supreme Court cases did describe a state's interest in its wildlife and natural resources as "ownership." In *Geer v. Connecticut,*[52] the Supreme Court upheld the validity of a Connecticut ordinance which prohibited the killing of certain fowl for purposes of conveying the animals beyond state lines. In reaching its conclusion the court characterized the state's interest in terms of "ownership," although the court noted that the state had an obligation to exercise its ownership "as a trust for the benefit of the people."[53] Similarly, in *La Coste v. Department of Conservation,*[54] the court stated that wild animals were "owned by the state in its sovereign capacity for the common benefit of all its people."[55]

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49. See text at notes 25-28 *supra.*
50. BLACK'S LAW DICTIONARY 1098 (5th ed. 1979).
51. See note 20 *supra.*
52. 161 U.S. 519 (1896).
53. *Id.* at 529.
54. 263 U.S. 545 (1924).
55. *Id.* at 549.

However, later cases have rejected the notion of state "ownership" of living natural resources. The majority in *Toomer v. Witsell*[56] stated: "The whole ownership theory, in fact, is now generally regarded as but a fiction expressive in legal shorthand of the importance to its people that a state have power to preserve and regulate the exploitation of an important resource."[57] Recently, in *Hughes v. Oklahoma,*[58] the Court came full circle and formally overruled *Geer v. Connecticut,* thus laying to rest for good the theory of state "ownership" of wildlife and natural resources. In *Hughes,* the Court struck down a state law which prohibited the interstate transportation of wildlife lawfully caught in the state. However, while expressly overruling *Geer,* the Court recognized that states retain an important interest in the regulation and conservation of living natural resources: "the general rule we adopt in this case makes ample allowance for preserving, in ways not inconsistent with the Commerce Clause, the legitimate state concerns for conservation and protection of wild animals underlying the 19th Century legal fiction of state ownership."[59] *Hughes* thus makes clear that a state has an important interest in its living natural resources, but the interest does not rise to the level of ownership.[60]

In *Zoe Colocotroni,* the plaintiffs and the district court relied principally on two cases to support the contention that Puerto Rico had a proprietary interest in the damaged marine organisms: *Maine v. M/V Tamano,*[61] and *State, Department of Fish and Game v. SS Bournemouth.*[62] Neither of these cases, though, is convincing precedent on the issue of a state's "proprietary interest" in marine organisms.

In *Tamano,* the State of Maine brought suit seeking damages for injury to its waters and marine life resulting from an oil spill. The

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56. 334 U.S. 385 (1948).

57. *Id.* at 402.

58. 441 U.S. 322 (1979).

59. *Id.* at 335-36.

60. The majority in *Hughes* stated: "We consider the States' interest in conservation and protection of wild animals as legitimate local purposes similar to the States' interest in protecting the health and safety of their citizens." *Id.* at 337.

It must be noted that *Hughes* was a commerce clause case, and therefore its applicability to non-commerce clause cases, such as *Zoe Colocotroni,* might be questioned. However a fair reading of the case seems to indicate that the Court's rejection of the concept of state "ownership" of living natural resources is absolute, and not limited to challenges under the commerce clause.

61. 357 F. Supp. 1097 (D. Me. 1973).

62. 307 F. Supp. 922 (C.D. Cal. 1969).

state's claim for damages was in three categories: (1) in its proprietary capacity the state sought damages for harm to land which it owned; (2) in its "parens patriae" capacity the state sought damages for harm to its coastal waters and marine life; and (3) cleanup costs.[63] *Tamano* involved a motion by the defendants to dismiss the state's "parens patriae" claim, and the limited discussion by the court of a state's "proprietary capacity" solely concerned *land* which the State of Maine itself owned, not living natural resources.[64] Nowhere in *Tamano* does the court indicate that Maine had a "proprietary interest" in marine organisms.

Bournemouth involved a suit by the State of California against a vessel "in rem" which discharged oil into the navigable waters of the state, apparently harming the water itself and marine life. The district court held that California's ownership interest in its navigable waters and marine life gave rise to a maritime lien on the vessel.[65] This decision is of questionable value, however. Not only did the court not cite any authority for the proposition that a state owns marine animals living off its coast; it did not even treat state ownership as an issue. The court's opinion simply *assumed* that the State of California owned the water and marine life which were damaged. Absent some legal support, such an assumption of law is inappropriate.

In any event, to whatever extent *Tamano* and *Bournemouth* do stand for the proposition that a state has a proprietary interest in its marine organisms, these cases have been overruled by *Hughes*. The Supreme Court in *Hughes* makes clear that a state's interest in its living natural resources cannot be labelled "ownership."[66] Thus, a state faced with a case like *Zoe Colocotroni,* where marine organisms off its coast are damaged, cannot look to the concept of "proprietary interest" as a basis for a cause of action.

2. Trustee of the Public Trust

A *trust* is "a right of property, real or personal, held by one party for the benefit of another."[67] It is a fiduciary relation with respect to property, subjecting the person by whom the property is held, the

63. Maine v. M/V Tamano, 357 F. Supp. 1097, 1098-99 (D. Me. 1973).

64. *Id.* at 1098 & n.2.

65. State, Department of Fish & Game v. SS Bournemouth, 307 F. Supp. 922, 926-29 (C.D. Cal. 1969).

66. Hughes v. Oklahoma, 441 U.S. 322, 341 (1979).

67. BLACK'S LAW DICTIONARY 1352 (5th ed. 1979).

trustee, to equitable duties to deal with the property for the benefit of another person, the beneficiary.[68] A trustee has not only the right, but also the affirmative fiduciary obligation, to ensure that the beneficiary's rights in the trust "corpus" are protected, and to seek compensation for any diminution in that trust corpus.[69]

A *public trust* is a trust in which the beneficiaries are the public at large.[70] One commentator[71] has suggested that perhaps the best description of the public trust doctrine as it exists in states today, was enunciated by the Supreme Court in the 19th century case of *Illinois Central Railroad v. Illinois.*[72] There the Court stated that the title to the navigable waters of Lake Michigan held by Illinois was "a title held in trust for the people of the state that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties."[73]

The plaintiffs in *Zoe Colocotroni* argued that the Commonwealth of Puerto Rico was the "public trustee" of all the living natural resources in the Commonwealth. The damaged marine organisms, they asserted, were part of the corpus of the public trust, and therefore Puerto Rico had the right and duty to have the corpus reimbursed for the diminution attributable to the oil spill.[74] Defendants argued that absent a proprietary interest in the resource actually damaged, a state's unexercised regulatory authority will not support a proper cause of action.[75] Each side was able to cite two lower court cases in support of its position.

The defendants cited *Commonwealth v. Agway, Inc.*,[76] and *State v. Dickinson Cheese Co.*,[77] both of which involved damage actions by a state against polluters who destroyed fish. In *Agway,* the court found that "the interest of the state (in its marine life) is that of a

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68. *Id.*

69. *See* RESTATEMENT (SECOND) OF TRUSTS, §§ 2 and 177, and § 177 Comment a (1959).

70. BLACK'S LAW DICTIONARY 1355 (5th ed. 1979). For a detailed discussion of the public trust doctrine, *see* Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention,* 68 MICH. L. REV. 471 (1970).

71. Note, *Environmental Law-Public Trust-Injury to Public Trust is Basis for Award of Damages,* 5 SETON HALL L. REV. 394, 397 (1974).

72. 146 U.S. 387 (1892).

73. *Id.* at 452.

74. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671 (1st Cir. 1980); Brief of Amici Curiae at 11-12, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

75. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671 (1st Cir. 1980).

76. 210 Pa. Super. Ct. 150, 232 A.2d 69 (1967).

77. 200 N.W. 2d 59 (N.D. 1972).

sovereign, not an owner."[78] Unable to find that a proprietary interest in living natural resources resided in the state, and looking no further, the court ruled that damages could not be recovered.[79] The court in *Dickinson Cheese,* relying on *Agway,* said that a state "does not have such property interest in the fish while they are in a wild state sufficient to support a civil action for damages for the destruction of those fish which have not been reduced to possession."[80] As in *Agway,* the court in *Dickinson Cheese* apparently assumed that in the absence of a proprietary interest the state could not maintain a civil damage suit, and therefore looked no further for a cause of action.

The problem with these cases, and the reason they are not very helpful to the defendants in *Zoe Colocotroni,* is that in a sense they beg the very issue in dispute here. While both *Agway* and *Dickinson Cheese* hold that a state cannot maintain a damage suit for the destruction of fish because it lacks a "proprietary interest" in them, neither of these cases discuss the "public trust" doctrine. Perhaps, as no doubt the defendants in *Zoe Colocotroni* would argue, the respective judges did not mention the public trust doctrine because they did not think a state's status as "trustee" supported a cause of action, but this is pure speculation. The fact is, the analysis in both cases is limited to a determination of whether or not a state has a proprietary interest in its fish. Once the courts answered this question in the negative, the suits were dismissed. Thus, neither *Agway* nor *Dickinson Cheese* are of much precedential weight on the question whether the "public trust" doctrine supplies a state with a cause of action in environmental damage suits.

The plaintiffs in *Zoe Colocotroni* cited *Maryland v. Amerada Hess Corp.,*[81] and *State v. Jersey Central Power & Light,*[82] as support for their position. In *Amerada Hess,* the State of Maryland brought suit to recover damages for harm to the condition and quality of its waters, incurred as a result of an oil discharge into Baltimore Harbor. The defendants in that case presented the same defense as that asserted by the defendants in *Zoe Colocotroni:*

> [T]he "trusteeship of the State is merely an expression of the State's power to regulate, and . . . the State, as a mere trustee of the waters contained therein, has no proprietary interest in

78. Commonwealth v. Agway, Inc., 210 Pa. Super. Ct. 150, 153, 232 A.2d 69, 70 (1967).
79. *Id.* at 155, 232 A.2d at 71.
80. State v. Dickinson Cheese Co., 200 N.W.2d 59, 61 (N.D. 1972).
81. 350 F. Supp. 1060, 1066 (D. Md. 1972).
82. 125 N.J. Super. Ct. 97, 308 A.2d 671 (1973).

> said waters, and therefore is not able to bring a common law civil suit to redress a wrong done to the waters of the State.[83]

The court agreed that the State of Maryland was a "trustee" rather than an "owner" of the damaged waters, but it held:

> The conclusion seems inescapable to this Court, that if the State is deemed to be the trustee of the waters, then, as trustee, the State must be empowered to bring suit to protect the corpus of the trust — i.e., the waters — for the beneficiaries of the trust — i.e., the public.[84]

Using similar reasoning,[85] and reaching the same result, the district court in *Jersey Central Power & Light* held: "It would . . . [be] unreasonable and injudicious to impose the fiduciary duties of a trustee upon the State while withholding the ability to have the corpus reimbursed for a diminution attributable to a wrongdoer."[86]

The reasoning in these cases is compelling. If a state is indeed a "public trustee" of its living natural resources, then surely the state, like any trustee, should have the right to recover damages when the trust corpus is diminished by a polluter. The only possible argument against this conclusion is to assert that a state is not the "public trustee" of its natural resources. Defendants in *Zoe Colocotroni* made this claim, arguing that since *Geer v. Connecticut*[87] had language indicating that a state was a public trustee, and since *Hughes v. Oklahoma*[88] explicitly overruled *Geer,* then the public trust theory could not be used as a basis for recovery of damages to marine organisms.[89]

This argument is unpersuasive. A close reading of *Hughes* reveals that it overruled *Geer* insofar as that case held that a state *owns* the living natural resources within its borders.[90] Nowhere in *Hughes* is there any mention of the public trust doctrine. The rule of *Hughes* is

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83. Maryland v. Amerada Hess Corp., 350 F. Supp. 1060, 1066 (D. Md. 1972).

84. *Id.* at 1067.

85. The reasoning is almost identical, except the court in *Jersey Central Power & Light* equated the state's role as "public trustee" with the concept of "parens patriae." For a discussion of this point, see Note, *supra* note 71, at 400-08.

86. State v. Jersey Central Power & Light, 125 N.J. Super. Ct. 97, 102, 308 A.2d 671, 673-74 (1973).

87. 161 U.S. 519 (1896).

88. 441 U.S. 322 (1979).

89. Brief for Appellant at 59-60, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

90. Hughes v. Oklahoma, 441 U.S. 322, 327-35 (1979).

plainly that while a state has an important interest in its living natural resources, it does not own them. The public trust doctrine remains unaffected by *Hughes*.

To summarize, "states retain an important interest in the regulation and conservation of wildlife and natural resources."[91] This interest, while it is not "proprietary," is expressed metaphorically in the state's status as public trustee of its natural resources. This interest should be sufficient to support a claim for recovery of damages for environmental harm. As trustee, a state should have the power to protect the trust corpus (i.e., the state's natural resources), by instituting regulatory and conservational measures, and, if necessary, by bringing suit. The status of a state as "trustee of the public trust" should be a basis for a cause of action when the state's living natural resources are harmed.

3. Parens Patriae

The phrase "parens patriae" literally means "parent of the country."[92] The doctrine developed in England as the King's right to protect those citizens who were incapable of caring for themselves.[93] However, in the United States the concept has developed to include those situations in which a state seeks compensation for damages to its "quasi-sovereign interests,"[94] which are separate and apart from those injuries suffered individually by its citizens.[95] Given this requirement, commentators have noted that there are two situations in which a state could probably maintain a "parens patriae" suit: (1) where the state itself suffers clear injury, such as its own economy; or (2) where the general public suffers an injury that gives no right of recovery to any one individual.[96]

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91. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 671 (1st Cir. 1980).

92. BLACK'S LAW DICTIONARY 1003 (5th ed. 1979).

93. Note, *supra* note 71, at 401. Among those who were considered at English law to be "incapable of caring for themselves" were idiots and lunatics. *Id.* at 401 n.66.

94. The United States is a sovereign nation; thus the individual states are "quasi-sovereign." Although there is no definitive list of those interests that may be classified as "quasi-sovereign," the courts have identified numerous interests that so qualify, among them, the interest in a clean environment, *see* Georgia v. Tennessee Copper Co., 206 U.S. 230 (1907).

95. The cases are universal in their requirement that in order for a state to sue in its "parens patriae" capacity, it must show injury to its own interests apart from that suffered by its inhabitants. *See, e.g.*, Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907); Oklahoma ex. rel. Johnson v. Cook, 304 U.S. 387, 393 (1938); Hawaii v. Standard Oil Co., 301 F. Supp. 982, 986 (D. Haw. 1969), *rev'd on other grounds*, 431 F.2d 1282 (9th Cir. 1970), *aff'd* 405 U.S. 251 (1972).

96. *See* Note, *supra* note 71, at 402, and Note, *State Protection of Its Economy and Environment: Parens Patriae Suits for Damages*, 6 COLUM. J.L. & SOC. PROB. 411, 413-18 (1970).

Plaintiffs in *Zoe Colocotroni* argued that Puerto Rico's quasi-sovereign interests in its living natural resources (i.e., the important regulatory and conservational interests recognized by *Hughes*[97]) formed the basis for a cause of action enabling the Commonwealth to recover damages for harm to marine organisms.[98] According to the plaintiffs, the injury to the marine organisms met the second requirement listed above, namely an injury to the general public which gives no right of recovery to any one individual.[99]

The defendants in *Zoe Colocotroni* presented two arguments against this asserted right of a "parens patriae" damage suit. First, they claimed that the destruction of the marine organisms did not inflict injury on anyone, since the organisms were commercially valueless.[100] This argument is unpersuasive, however. While a later section of this article discusses in detail the ramifications of the fact that the damaged marine organisms had no market value,[101] for now it is a sufficient answer to defendants' argument to note that the true "worth" of property is not always reflected in its market value. Although the marine organisms which were destroyed by the Colocotroni oil spill were themselves *commercially* valueless, they were vital links in the aquatic food chain, and thus were *ecologically* valuable.[102] Thus, because the destruction of the organisms had a negative impact on Puerto Rico's living natural resources, the people of the Commonwealth did suffer an injury.

The second argument asserted by the defendants in *Zoe Colocotroni* was that a state in its "parens patriae" capacity could only bring an action for injunctive relief, not damages.[103] They correctly noted that all but two of the Supreme Court "parens patriae" cases were actions solely for injunctive relief, and that in both suits in which damages were sought,[104] the Court denied recovery. In

97. Hughes v. Oklahoma, 441 U.S. 322 (1979).

98. Plaintiff's Brief at 38, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327 (D.P.R. 1978).

99. *Id.* at 39.

100. Brief for Appellants at 55-56, and 60-71, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980). This argument by the defendants applied to any and all causes of action, not solely to the one based on "parens patriae."

101. See text at notes 114-183 *infra.*

102. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1339 (D.P.R. 1978); Brief of Amici Curiae at 22, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980). See text at note 177 *infra,* for a discussion of how this ecological value might be measured.

103. Brief for Appellants at 60, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

104. Georgia v. Pennsylvania R. Co., 324 U.S. 439 (1945); Hawaii v. Standard Oil Co., 405

Georgia v. Pennsylvania R. Co., the State of Georgia brought suit seeking injunctive relief and damages against twenty railroad companies that allegedly conspired to fix freight rates which discriminated against the state. The Supreme Court held that Georgia could maintain its "parens patriae" suit[105] but ruled that the state could not recover damages because the allegedly collusive rates had been approved by the Interstate Commerce Commission and a damage award would have constituted an improper rebate.[106] In *Hawaii v. Standard Oil Co.*, the State of Hawaii brought suit seeking damages and injunctive relief against four corporations which allegedly violated the anti-trust laws of the United States.[107] At issue was a motion by the defendants to dismiss the count in which Hawaii sought damages in its "parens patriae" capacity.[108] The Court, in affirming for the defendants, held that the phrase "business or property" in section 4 of the Clayton Act did not authorize damages for an injury to the general economy of a state.[109] However, although the Court denied damages in both of these cases, neither of them can fairly be read as standing for the proposition that a state, as "parens patriae," cannot sue for damages. A close reading of the two cases indicates that the Court did not express *any* reluctance to the idea of awarding damages in a "parens patriae" case. As the district court stated in *Maine v. M/V Tamano*,[110] "the plain implication to be drawn from both . . . [*Georgia v. Pennsylvania R. Co.*, and *Hawaii v. Standard Oil Co.*] is that, absent some substantive bar, the Court was willing to allow damages to a state suing as "parens patriae."[111]

Tamano, incidentally, was the first decision clearly to permit an award of damages under the "parens patriae" doctrine for injury to the environment. In rejecting defendants' motion to dismiss the

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U.S. 251 (1972).

105. Georgia v. Pennsylvania R. Co., 324 U.S. 439, 450-51 (1945). It should be noted that Georgia also brought suit in its "proprietary capacity" as an owner of a railroad.

106. *Id.* at 453.

107. Specifically, the Sherman Act, 15 U.S.C. § 1 (1976). Hawaii v. Standard Oil Co., 405 U.S. 251, 253 (1972). Hawaii's claim for damage was based on section 4 of the Clayton Act, 15 U.S.C. § 15 (1976), which states:

> Any person who shall be injured in his business or property by reason of anything forbidden in the antitrust laws may sue therefor in any district court of the United States in the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall recover threefold the damages by him sustained and the cost of suit, including a reasonable attorney's fee.

108. Hawaii v. Standard Oil Co., 405 U.S. 251, 256-57 (1972).

109. *Id.* at 264-66.

110. 357 F. Supp. 1097 (D. Me. 1973).

111. *Id.* at 1101. See Note, *supra* note 96, at 419-21.

count that sought damages under the "parens patriae" doctrine, the district court stated:

> If Maine can establish damage to her quasi-sovereign interests in her coastal waters and marine life, independent of whatever individual damages may have been sustained by her citizens, there is no apparent reason why the present action to recover such damage cannot be maintained. In the view of this Court, the complaint states a viable "parens patriae" cause of action . . . .[112]

In short, there is nothing inherent in the concept of "parens patriae" that prevents the awarding of damages. In cases where a polluter or other wrongdoer harms a state's living natural resources, the state should be able to bring a "parens patriae" suit to recover damages for that harm. The requirement of a separate state interest should be satisfied because the harm in such cases is to the general welfare and thus no one individual has a right to recover.

To summarize, in cases in which living natural resources are destroyed, a state should be able to maintain a common law suit for damages.[113] There are two bases for a cause of action in such cases: (1) the state's status as "trustee of the public trust" in the natural resources; and (2) the state's capacity as "parens patriae." However, having a cause of action and being able to maintain a suit is only half the battle. Damages must be assessed, and the difficulty inherent in that task will be the subject of the remainder of this article.

III. Damage Assessment for Harm to Non-Commercial Living Natural Resources

Perhaps the most interesting problem posed by *Zoe Colocotroni* was damage assessment. At the heart of this problem were two key factors: (1) the Puerto Rico statute enabling the EQB to bring suit is extremely vague with regard to damage assessment;[114] and (2) the damaged natural resources had no commercial or market value. These two factors combined to make the issue of damage assessment difficult and intriguing. In essence the question faced by the court was: in the absence of statutory instructions, how should a court assess damages for harm to non-commercial living natural resources?

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112. Maine v. M/V Tamano, 357 F. Supp. 1097, 1102 (D. Me. 1973).

113. Of course, this conclusion holds only when the state's legislature has not authorized a statutory cause of action that precludes the bringing of a common law suit.

114. The relevant Puerto Rico statute is P.R. Laws Ann. tit. 12 § 1131(29) (1977). It is set out in full at note 29 *infra*.

A. The District Court's Opinion

The district court found that plaintiffs' proven claim of damage to marine organisms covered "an approximate area of about [twenty] acres in and around the West Mangrove."[115] The court found further, that surveys conducted by the plaintiffs "reliably establish[ed] that there was a decline of approximately 4,605,486 organisms per acre as a direct result of the oil spill."[116] Thus the total number of marine organisms killed was placed at 92,109,720.[117] With regard to the destruction of mangroves, the district court found that the "sediments in and around the West Mangrove continue to be impregnated with oil . . . . The most affected spots in the West Mangrove cover an area of approximately 23 acres."[118]

In awarding damages for this harm, the district court held that restoration or replacement costs provided the best measure of the quantum of damage sustained by Puerto Rico:

> We recognize that no market value, in the sense of loss of market profits, can be ascribed to the biological components of the Bahia Sucia ecosystem. The Court will thus refer to market cost as the *most reliable evidence of the quantum of damages actually sustained, i.e., what is required to make the Plaintiffs whole. This will comprise the cost of restoring the affected areas to the condition in which they were before the occurrences.*[119]

Thus, with little discussion, the district court awarded plaintiffs the cost of replacing the damaged marine organisms and mangrove trees. With regard to the marine organisms, the court arrived at a replacement cost figure by referring to biological supply catalogs.[120] According to the district court, these catalogs established that the "lowest possible replacement cost figure [was] $.06 per animal, with many species selling from $1.00 to $4.50 per individual."[121] Using the lowest replacement cost figure ($.06), the court awarded damages in this area totalling $5,526,583.20.[122]

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115. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1344 (D.P.R. 1978).

116. *Id.*

117. *Id.* (20 x 4, 605, 486).

118. *Id.* at 1345.

119. *Id.* at 1344-45 n.42 (emphasis added), *citing,* Feather River Lumber Co. v. United States, 30 F.2d 642, 644 (9th Cir. 1929).

120. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1344 (D.P.R. 1978).

121. *Id.* at 1344-45.

122. *Id.* at 1345 ($.06 x 92,109,720).

As for the restoration of the mangrove trees, the district court held that "these areas can best be reestablished by the intensive planting of mangrove . . . ."[123] The court determined that this would cost $16,500 per acre.[124] In addition, the court ruled that the planting would require a five year monitoring and fertilizing program at a cost of $36,000 per year, or $180,000 for the five years.[125] Thus, the district court awarded a total of $559,500 in damages for the destruction of the mangrove trees.[126] When added to the $5,526,583.20 awarded for the harm to marine organisms, the total restoration costs awarded by the district court came to $6,086,083.20.[127]

B. The Circuit Court's Opinion

It was noted earlier that the circuit court held that the EQB's statutory cause of action replaced any common law cause of action which Puerto Rico might have had.[128] Thus, in dealing with damage assessment, the circuit court was limited to the EQB's statutory cause of action. This meant that the court had to focus on the language of the EQB's enabling statute.[129] Unfortunately, section 1131(29) is extremely vague in the area of damage assessment. The relevant portion of the statute states only that the EQB is empowered to bring "civil actions for damages in any court of Puerto Rico or the United States of America to recover the total value of the damages caused to the environment and/or natural resources . . . ."[130] Given the statutory language, it is understandable that the issue of damage assessment was so hotly disputed in *Zoe Colocotroni.* The phrase "total value of the damages caused to the environment and/or natural resources" is patently ambiguous. It gives no guidelines or suggestions whatsoever to a court on how to assess damages; conse-

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123. *Id.*

124. *Id.* This brought the cost of replanting 23 acres to $379,500. The court based its calculation of the cost of restoring the mangroves on the testimony of one of plaintiffs' experts, Charles Pennock, a San Juan nurseryman. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 659 (1st Cir. 1980).

125. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1345 (D.P.R. 1978).

126. *Id.* ($379,500 + $180,000).

127. *Id.* The district court also awarded $78,108.89 in cleanup costs (which were not disputed by the defendants). This brought the total damage award to $6,164,192.09.

128. See text at notes 46-48 *supra.*

129. P.R. LAWS ANN. tit. 12 § 1131(29) (1977). Hereinafter this statute will be referred to in the text as "section 1131(29)." The statute is set out in full at note 29 *supra.*

130. *Id.*

quently, each side in *Zoe Colocotroni* devoted substantial energy to promoting its own theory of damage assessment.

The defendants in *Zoe Colocotroni* argued that in a civil suit for harm to property, rather than to a person, there were only three recognized legal theories under which Puerto Rico, through the EQB, could recover damages: (1) diminution in the market value of the property, or the cost of restoration, whichever was less; (2) loss of profits; or (3) loss of use of real or personal property.[131] Defendants claimed that since the damaged mangroves and marine organisms had no commercial value or use,[132] then theories (2) and (3) above were not applicable. Thus, the defendants asserted that damages had to be limited to either the diminution in market value of property affected by the oil spill, or the cost of restoration, whichever was less. On this point, the defendants introduced evidence that property in the vicinity of Bahia Sucia had been sold at prices ranging from $3,000 to $5,670 per acre.[133] The defendants claimed that since the marine organisms and mangrove trees had no market value, then damages could in no way exceed $5,670 per acre.[134]

Defendants' argument certainly has some merit. Section 1131(29) says only that the EQB can recover the "total value of the damages caused to the environment and/or natural resources."[135] In actions involving harm to property rather than to a person, the diminution in value rule is the traditional means of calculating damages.[136] Thus, it is reasonable to assert that the "total value" of the EQB's damages should be measured by the diminution in value rule.

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131. Brief for Appellants at 61, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980). These are the three traditional theories of recovery used in civil suits involving damages to property. *See, e.g.*, Robie v. Ofgant, 306 F.2d 656 (1st Cir. 1962) (lost benefits under dealership agreement); Associated Stations, Inc. v. Cedars Realty and Development Corp., 454 F.2d 184 (4th Cir. 1972) (tenant damage to leased premises); McBrayer v. Teckla, Inc., 496 F.2d 122 (5th Cir. 1974) (lost profits); Big Rock Mountain Corp. v. Stearns Roger Corp., 388 F.2d 165 (8th Cir. 1968) (damages for defective gondola support assessed at cost of restoration plus loss of use); American Telephone & Telegraph Co. v. Connecticut Light & Power Co., 470 F. Supp. 105 (D. Conn. 1979) (damages for loss of use of underground telephone cable); DeArmon v. St. Louis, 525 S.W.2d 795 (Mo. 1975) (diminution in value test for damage to building).

132. Plaintiffs admitted that there was no open market for the mangrove trees and marine organisms, and that they could not have sold or used them. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 673 (1st Cir. 1980).

133. Brief for Appellants at 61, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

134. *Id.*

135. P.R. LAWS ANN. tit. 12 § 1131(29) (1977).

136. *See* RESTATEMENT (SECOND) OF TORTS, § 929(1)(a) (1979). Of course, in an appropriate case, where restoration costs are reasonable, such costs can be the measure of damages.

On the other hand, plaintiffs in *Zoe Colocotroni* argued that damages should not be limited by the traditional diminution in value rule. They claimed that to limit damages to diminution in market value would be "entirely inappropriate for measuring the general damage society suffers when valuable living, but non-commercial resources are destroyed."[137] The plaintiffs noted that Puerto Rico, through the EQB, was not claiming injury as the owner of marketable or commercially valuable property. Rather, the claim was for injury to the natural environment of Puerto Rico.[138] According to the plaintiffs, the best measuring stick of the quantum of damages actually sustained by Puerto Rico, and the only way to "make the plaintiffs whole," was to assess damages at the cost of restoring the affected area to its condition prior to the oil spill.[139]

The circuit court divided the issue of damage assessment into two sub-issues: (1) whether damages should be limited to the amount recoverable under the diminution in value rule; and (2) whether plaintiffs were entitled to the over $6 million in damages awarded by the district court.[140] These issues could be labelled respectively, "Theory of Damage Recovery," and "Calculation of Damages." The following sections will examine these two issues.

1. Theory of Damage Recovery

The circuit court ruled that damages should not be limited by the diminution in value rule. The court held that "implicit" in the language of section 1131(29), specifically in the phrase "total value of the damages," was

> a determination not to restrict the state to ordinary market damages . . . . In enacting section 1131, Puerto Rico obviously meant to sanction the difficult, but perhaps not impossible, task of putting a price tag on resources whose value cannot always be measured by the rules of the market place. Although the diminution rule is appropriate in most contexts, and may indeed be appropriate in certain cases under section 1131, it does not

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137. Brief of Amici Curiae at 25, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

138. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 673 (1st Cir. 1980).

139. Brief for Appellees at 47-57, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

140. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 670, 672-78 (1st Cir. 1980).

> measure the loss which the statute seeks to redress in a context such as the present.[141]

This interpretation of section 1131(29) is certainly open to question. It has been noted repeatedly that the statute merely says, "total value of the damages caused to the environmental and/or natural resources."[142] The circuit court read into this language a determination by the Puerto Rico legislature not to restrict the Commonwealth to ordinary market damages. However, given the ambiguity of the statutory language, it is at least arguable that "total value" should be calculated by routinely applying the diminution in value rule.

The circuit court gave two reasons for its interpretation of section 1131(29). First, the court cited the course of recent federal legislation in the area of oil pollution. The court noted, for example, that the Clean Water Act of 1972[143] provided only that the United States could recover cleanup costs after an oil spill, and made no explicit reference to environmental damages.[144] The Clean Water Act Amendments of 1977, however, significantly expanded the scope of a vessel owner's potential liability. The federal government and the states were authorized to recover "costs or expenses incurred . . . in the restoration or replacement of natural resources damaged or destroyed as a result of a discharge of oil or a hazardous substance . . . ."[145] The circuit court also cited language from a number of other federal statutory provisions—language which indicates a recent Congressional determination to authorize the federal government and the states to recover costs incurred in restoring or replacing natural resources, including marine life, which are damaged by a discharge of oil or other hazardous substance.[146]

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141. *Id.* at 673-74.

142. P.R. LAWS ANN. tit. 12 § 1131(29) (1977).

143. Pub. L. No. 92-500, 92d Cong., 2d Sess. § 311, 86 Stat. 816 (1972) (codified at 33 U.S.C. § 1321(f) (1976)).

144. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 673 (1st Cir. 1980).

145. 33 U.S.C. § 1321(f)(4) (Supp. I 1977).

146. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 673-74 (1st Cir. 1980). The provisions cited by the circuit court included 33 U.S.C. § 1321(a)(8) (1976), and 33 U.S.C. § 1321(f)(5) (Supp. I 1977). The former includes as recoverable removal costs the expense "of such . . . actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches." 33 U.S.C. § 1321(a)(8) (1976). The latter states that:

> The President, or the authorized representative of any State, shall act on behalf of the public as trustee of the natural resources to recover for the costs of replacing or

The circuit court reasoned that the federal statutes gave "some indication that Congress has determined that it is desirable to provide for environmental damages apart from the commercial loss, ordinarily measured by a market value yardstick, suffered by landowners and/or exploiters of natural resources."[147] The court concluded that in light of this recent federal statutory activity, section 1131(29) must be read as not limiting damages to the amount recoverable under the diminution in value rule.

It is difficult to understand why the circuit court chose to discuss this federal legislation. The EQB's suit was based solely on its enabling statute, not on any of the federal statutes discussed by the circuit court. Moreover, the federal statutes are not good authority for indicating the intent of the Puerto Rico legislature. The circuit court presented no evidence whatsoever that the Puerto Rico legislature agreed with the recent federal legislative developments. The relevant portion of section 1131(29) was drafted in 1970,[148] and since then the Puerto Rico legislature has not seen fit to modify its language. The circuit court's discussion apparently assumed that, given the recent federal enactments, the intention of the Puerto Rico legislature would be to have the phrase "total value of the damages" interpreted as not limiting recovery to those damages recoverable under the diminution in value rule. While this assumption may be correct, it should not be made without some concrete evidence that the Puerto Rico legislature did in fact agree with the approach taken in these recently enacted federal statutes. In the absence of such evidence, the circuit court's reasoning is unpersuasive.

However, the circuit court did present another reason for its interpretation of section 1131(29). The court noted that a strict application of the diminution in value rule in cases such as *Zoe Colocotroni,*

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restoring such resources. Sums recovered shall be used to restore, rehabilitate, or acquire the equivalent of such natural resources by the appropriate agencies of the Federal government, or the State government.

33 U.S.C. § 1321(f)(5) (Supp. I 1977).

In addition, the circuit court quoted a section of the Outer Continental Shelf Lands Act which provides that sums the state recovers "shall be available for use to restore, rehabilitate, or acquire the equivalent of such natural resources by the appropriate agencies of . . . the State, but the measure of such damages shall not be limited by the sums which can be used to restore or replace such resources." 43 U.S.C. § 1813(b)(3) (Supp. II 1978).

147. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 674 (1st Cir. 1980).

148. Section 1131(29) was last amended in 1973, but the phrase "total value of the damages caused to the environment and/or natural resources" was unaffected by the amendments.

where the natural resources have no commercial value, "would deny the state any right to recover meaningful damages for harm to such areas, and would frustrate appropriate measures to restore or rehabilitate the environment."[149] This, the court said, would violate the "manifest intent" of Puerto Rico's environmental statute.[150]

Although the circuit court determined this "intent" solely by interpreting the phrase "total value of the damages" in light of recent federal legislation, the court's conclusion appears sound. Section 1131(29) is part of Puerto Rico's "Public Policy Environmental Act."[151] The "purpose clause" of this Act states that one of the major purposes of the Act is "to develop the efforts which might hinder or eliminate damages to the environment . . . ."[152] This purpose clearly would not be served if the diminution in value rule was applied in every civil suit for environmental damages. In cases involving damage to *non-commercial* natural resources, such as *Zoe Colocotroni,* the application of the diminution rule would not provide the state with meaningful damages. Many natural resources have important *ecological* value, but are not commercially valuable.[153] As the circuit court noted:

> In recent times, mankind has become increasingly aware that the planet's resources are finite and that portions of the land and sea which at first glance seem useless, like salt marshes, barrier reefs, and other coastal areas, often contribute in subtle but critical ways to an environment capable of supporting both human life and the other forms of life on which we all depend.[154]

Such resources could be freely destroyed if a court could look no further than to market value in awarding damages.[155] This would be contrary to the "purpose clause" of Puerto Rico's Public Policy Environmental Act, because when a polluter is able to avoid paying

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149. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 673 (1st Cir. 1980).

150. *Id.* at 674.

151. P.R. LAWS ANN. tit. 12 § 1121 (1977). This is the official "short title" of the Act.

152. P.R. LAWS ANN. tit. 12 § 1122 (1977).

153. In *Zoe Colocotroni,* for example, the damaged marine organisms and mangrove trees were not traded commercially, but they were vital links in the aquatic food chain. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327, 1339 (D.P.R. 1978); Brief of Amici Curiae at 22, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652 (1st Cir. 1980).

154. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 674 (1st Cir. 1980).

155. In *Zoe Colocotroni,* plaintiffs' recovery would be limited to the diminution in market value of the swampland. There would be no damages awarded for the destruction of the marine organisms.

damages for the harm he caused, he has no incentive to take steps to eliminate the problems which caused the pollution, and the state is denied funds it could have used to help restore or rehabilitate its environment.[156] Therefore, in order to advance the purpose of Puerto Rico's Public Policy Environmental Act, damages should not be limited to the amount recoverable under the diminution in value rule. Moreover, this same conclusion should hold true for common law damage suits brought by a state,[157] even though the statutory policy discussed above would not be present in such actions. Courts have refused to limit damages to the amount recoverable under the diminution in value rule in common law actions where the property has a special value to the injured party that is not reflected in its market value.[158] Whether a state brings suit under a statutory cause of action or a common law cause of action, it is equally entitled to a *meaningful* damage recovery. The diminution in value rule simply is not an adequate measure of damages when natural resources of ecological value, but with no market value, are destroyed. The following section will discuss alternative means of calculating damages in such cases.

2. Calculation of Damages

Having reached the conclusion not to limit damages to the amount recoverable under the diminution in value rule, the circuit court in *Zoe Colocotroni* had to decide whether the district court's damage award of over $6 million in restoration costs was appropriate. The court stated that its task was to "ascertain what a fair and equitable damages measure would be in these circumstances."[159] With only the phrase "total value of the damages caused to the environment and/or natural resources"[160] to work with, the circuit court once

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156. Admittedly, given the technology available today, in many oil spill cases it is not possible for the state to restore the affected area to its pre-existing condition. See note 178 *infra*. Nevertheless, the state can usually undertake some limited restoration measures, and conceivably it could channel the money into research to improve the state of the art, thus making it possible to fully restore an affected area in the future.

157. This article has argued that a state had the right to bring a common law action (as "public trustee," and in its "parens patriae" capacity) to recover damages for the harm to living natural resources. See text at notes 19-113 *supra*.

158. *See, e.g.*, Rector, Wardens and Vestry of St. Christopher's Episcopal Church v. C.S. McCrossan, Inc., 306 Minn. 143, 235 N.W. 2d 609 (1975) and cases cited therein; RESTATEMENT (SECOND) OF TORTS, § 929 Comment b (1979).

159. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 674-75 (1st Cir. 1980).

160. P.R. LAWS ANN. tit. 12 § 1131(29) (1977).

again looked to provisions in recent similar federal statutes for guidance. The court noted that there was a "strong emphasis in Congressional oil pollution enactments on the concept of restoration."[161] Citing language from the 1977 Clean Water Act Amendments,[162] and its legislative history,[163] the circuit court held that the appropriate primary standard for determining damages in a case like *Zoe Colocotroni,* where a state's non-commercial natural resources are destroyed,[164] is: "the cost reasonably to be incurred by the sovereign or its designated agency to restore or rehabilitate the environment in the affected area to its pre-existing condition, or as close thereto as is feasible without grossly disproportionate expenditures."[165]

The court also ruled, however, that this standard would not be appropriate and should not be applied, unless the plaintiff state presents "a *practicable* plan for *actual* restoration."[166] Noting that Puerto Rico, through the EQB, admitted that it had no intention of purchasing 92 million invertebrate marine animals for actual introduction into the sediments of Bahia Sucia, and that it would be impractical to do since the Bahia Sucia sediments remained contaminated with oil and could not support life, the circuit court held that the district court erred in awarding restoration costs.[167] The cir-

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161. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 675 (1st Cir. 1980).

162. 33 U.S.C. § 1321(f)(5) (Supp. I 1977). This provision is set out in note 146 *supra.*

163. The legislative history states:

> New subsections (f)(4) and (5) [of the Clean Water Act] make governmental expenses in connection with damage to or destruction of natural resources a cost of removal which can be recovered from the owner or operator of the discharged source under section 311. For those resources which can be restored or rehabilitated, the measure of liability is the reasonable costs actually incurred by Federal or State authorities in replacing the resources or otherwise mitigating the damage. Where the damaged or destroyed resource is irreplaceable (as an endangered species or an entire fishery), the measure of liability is the reasonable cost of acquiring resources to offset the loss.

Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 675 (1st Cir. 1980), *quoting* H.R. CONF. REP. NO. 95-830, 95th Cong., 1st Sess. 92 *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 4424, 4467.

164. The circuit court was careful, however, to limit its holding to cases in which the state seeking to recover, owns the *land* on which the living natural resources were destroyed. The court ventured no opinion whether a state might have a cause of action for harm to living natural resources which lived on privately owned land. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 675, 671 nn.22 & 20 (1st Cir. 1980).

165. *Id.* at 675.

166. *Id.* at 677.

167. *Id.* The circuit court also vacated the district court's award of $559,500 for damage to the mangrove trees, for basically the same reason: plaintiffs did not show that *actual* restoration was *practicable. Id.* at n.25.

cuit court pointed out that the case primarily relied upon by the district court to support its grant of damages for replacement value, *Feather River Lumber Co. v. United States,*[168]

> did not contemplate a purely abstract recovery such as that proposed here, where the theoretical "loss" was worked out in terms of what it would cost to buy thousands of creatures which, as a practical matter, would never be bought in such a manner and could not be expected to survive if returned to their damaged habitat. Rather, the Ninth Circuit was simply willing to permit the government to recover its *actual and reasonable* expected restoration costs . . . .[169]

Thus, the circuit court vacated the district court's damage award,[170] and ruled that on remand to the district court, the record should be reopened on the issue of damages.[171]

Before commenting on the circuit court's analysis, it should be noted that given the complete lack of statutory guidance with regard to damage assessment in *Zoe Colocotroni,* all of the circuit court's statements on the issue have equal applicability to a state's common law cause of action for environmental harm. With no statutory instructions to look to, the circuit court admitted that its task was to "ascertain what a fair and equitable damage measure would be in these circumstances,"[172] the same task which a court would face if a state brought a common law damage suit.[173] Thus, the discussion

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168. 30 F.2d 642 (9th Cir. 1929). In *Feather River,* the United States brought suit seeking damages for a public forest which was destroyed when defendant negligently started a forest fire and permitted it to spread onto public land. In affirming judgment for plaintiff, the circuit court said that the proper measure of damages for the merchantable timber was the market value of the trees, but that the best measure of damages for the young timber growth (which had no market value) was the cost of replacing them. *Id.* at 644. It is apparent from the opinion that the United States did intend to restore the area where young growth was killed. *Id.* at 643-44.

169. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 677 (1st Cir. 1980) (emphasis added).

170. Except as to Puerto Rico's undisputed cleanup costs of $78,108.89.

171. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 678 (1st Cir. 1980). The circuit court did offer a number of suggestions to the parties and the district court on how to approach the question of damage assessment on remand. As alternatives to restoration costs, the court suggested: (1) the cost of acquiring comparable lands for public parks, (2) the cost of reforesting a similar proximate site where the presence of oil would not pose the same hazard to ultimate success, and (3) the ecological value (in monetary terms) of noncommercial natural resources. The circuit court also noted that the EQB should still have an opportunity to recover some restoration costs if it could develop a *practicable* plan for *actual* restoration which was not disproportionately expensive. *Id.* at 696 & n.24.

172. *Id.* at 674-75.

173. "[T]he primary aim in measuring damages is to arrive at *compensation,* no more and no less." MCCORMICK, *supra* note 20, at 560.

which follows does not apply solely to the EQB's suit in *Zoe Colocotroni*; it also applies to common law actions brought by a state as "public trustee" or as "parens patriae."

The circuit court's conclusions in the area of damage assessment appear sound. To begin with, the most basic rule of tort recovery is that the injured party be placed, as nearly as reasonably possible, in the same position he would have been in had there been no tort.[174] In cases in which a state seeks damage for the destruction of living natural resources, which are ecologically valuable but which have no market value, the appropriate primary standard for assessing damages should be the cost of restoring or replacing the resources. This would return the plaintiff state to the position it would have been in had there been no damage. However, such a standard would not be appropriate in two types of cases: (1) where the cost of restoring the damaged non-commercial natural resources is grossly disproportionate to the harm caused and the ecological values involved;[175] and (2) where actual restoration is not possible or practicable.

The problem with awarding restoration costs in cases in which the cost of restoring the damaged area greatly exceeds the ecological value of the damaged resources, is that it places the state in a *better* position than it was in before the tort was committed. This author suggests that restoration costs should be classified as "grossly disproportionate" when they are three to four times greater than the ecological value of the natural resources involved.[176] When the restoration costs are this disproportionate, it would be inequitable to require a defendant to pay the cost of restoring commercially valueless resources. A better and fairer solution would be to assess damages in the amount of the resources' ecological value. This figure could be arrived at through the use of expert testimony. When natural resources are damaged or destroyed, it is possible for an expert to calculate the economic loss to the environment by taking into account a combination of "contribution to fisheries, protection of erosion, land control, value of wetlands as nurseries, et. al., then economically assessing the loss in terms of recreation, fisheries, pro-

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174. *See* McCORMICK, *supra* note 20, at 560-61.

175. One method of calculating "ecological value" is discussed below. See test at note 177 *infra.*

176. These figures were chosen because there are instances in which a plaintiff is authorized by statute to recover up to three times the damage he sustained. For example, treble damages may be recovered in actions for patent infringement, 35 U.S.C. § 284 (1976), and for violation of the Sherman Anti-Trust Act, 15 U.S.C. § 15 (1976). Any recovery exceeding treble damages, however, would be utterly inequitable.

duction of wood, and aesthetics."[177] Such a method is reasonable and desirable because it is based on the damage to the ecosystem as a whole, which is exactly the harm for which a state is seeking to recover when non-commercial living natural resources are destroyed.

In the second type of case, where actual restoration of the affected area is not possible or practicable,[178] a damage award based on restoration costs would be purely theoretical. Although it is not always possible in tort cases to calculate damages with absolute certainty, clearly a damage award must be based on something more than conjecture. It would be inequitable to require a defendant to pay damages for what restoration *might* have cost. A fairer and more meaningful method of assessing damages would be to use the "ecosystem approach" discussed above. Another equitable alternative would be "the reasonable cost of acquiring resources to offset the loss."[179] Examples of this would include the cost of acquiring comparable lands for public parks, and alternative-site restoration.[180]

Admittedly, the approach to damage assessment outlined above is far from perfect. The "ecosystem approach" ultimately rests on the economic value that the non-commercial living natural resources have to man; and ignores any *inherent* value that the resources may have. Moreover, the alternative of assessing damages at the "reasonable cost of acquiring resources to offset the loss," illu-

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177. Defendant's Post Trial Brief at 21, Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 456 F. Supp. 1327 (D.P.R. 1978). *See,* Dubey & Fidell, *The Assessment of Pollution Damage to Aquatic Resources: Alternatives to the Trial Model,* 19 SANTA CLARA L. REV. 641 (1979).

It is interesting to note that the defendants produced an expert at trial who testified that under the "ecosystem approach," damages to the Bahia Sucia area amounted to $40,000-$50,000 per acre.

178. *Zoe Colocotroni* is typical of oil spill cases in that direct restoration of the affected area often is not feasible.

> The technology available to remove oil and to restock plant and animal communities is very limited at present, and development of such a technology would be a long-range undertaking . . . . In most instances, the recovery of an ecosystem after an oil spill would occur, if at all, only through the slow processes of natural regeneration.

Wood, *Requiring Polluters to Pay for Aquatic Natural Resources Destroyed by Oil Pollution,* 8 NAT. RES. LAWYER 545, 598 (1976).

179. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 676 (1st. Cir. 1980), *quoting* H. R. CONF. REP. NO. 95-830, 95th Sess. 92, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 4424, 4467.

180. Commonwealth of Puerto Rico v. SS Zoe Colocotroni, 628 F.2d 652, 676 (1st. Cir. 1980). Alternative-site restoration involves rehabilitating a similar site proximate to the affected area (e.g., reforesting nearby land or restocking fish in nearby waters).

strates one of man's greatest misconceptions: that where natural resources are destroyed, there will always be others that can be "bought" to replace them. Despite these shortcomings, though, the above methods appear to be the best approaches to damage assessment in civil actions like *Zoe Colocotroni.* The task of assessing damages for harm to the environment is an inherently difficult one,[181] and the problems are exacerbated when non-commercial natural resources are destroyed. However, the purpose of civil remedies is to compensate the injured party for the damage done,[182] and this can only be accomplished through the use of money damages. In civil suits like *Zoe Colocotroni,* the court must assess the value, in monetary terms, of the harm done to the environment. An ideal approach would be one that recognized an inherent value in living natural resources, not necessarily based upon their economic value to man, but sadly, there is no way to measure this "inherent worth." The methods outlined above are at least a fair and workable means of assessing damages.

In summary, in cases involving harm to a state's living natural resources which are ecologically valuable but which have no commercial or market value, the court should assess damages as the cost reasonably to be incurred by the state or its designated agency to restore or rehabilitate the environment in the affected area to its pre-existing condition, provided that: (1) such an award is not grossly disproportionate to the harm caused and the ecological values involved; and (2) the plaintiffs present a practicable plan for actual restoration. In the event that both of these conditions are not met, the court should assess damages by estimating the ecological value of the damaged resources. Expert testimony will be required in such cases of course. Finally, in cases where the first, but not the second, condition is met, the court should consider, as an alternative to the "ecosystem approach," assessing damages at the cost of acquiring comparable lands for public parks, or alternative-site restoration. To be sure, the methods just outlined do not provide that damages will be calculated with total certainty, but a court can calculate damages under the above standards with at least as much certainty and accuracy as a jury determining damages for pain and suffering, or mental anguish.[183]

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181. *See* Note, *Assessment of Civil Monetary Penalties for Water Pollution: A Proposal for Shifting the Burden of Proof Regarding Damages,* 30 HASTINGS L. J. 651, 674-79 (1979); Wood, *supra* note 178, at 600-08 (1975).

182. See note 173 *supra.*

183. It is well-established that in tort actions, plaintiffs are entitled to recover damages for pain and suffering, and for mental anguish. *See,* MCCORMICK, *supra* note 20, at 315-19, & § 88.

IV. Conclusion

States have a vital interest in conserving and protecting their natural resources. Whenever a state's resources are damaged or destroyed, the state should have the right to bring suit to recover damages. Both the state's status as "public trustee" of its natural resources, and its capacity as "parens patriae," are sufficient bases for a cause of action in such cases. Of course, damage assessment will be a recurring problem in these actions, as it is generally difficult to assess damages for harm to the quality of the environment. However, courts should be guided by the basic principle of tort recovery, namely to place the injured party, here the people of the state, as nearly as reasonably possible, in the same position they would have been in had there been no tort. In cases where the damaged natural resources have a commercial or market value, then this market value will usually be an adequate measure of damages. But, in cases like *Zoe Colocotroni,* where the harm is to a state's living natural resources which are of ecological value, but which have no commerical or market value, then market value is a wholly inadequate standard for damage assessment. *Zoe Colocotroni* is noteworthy because the courts recognized this inadequacy, and pointed out that there are alternatives. The best of the alternatives suggested by the circuit court is to assess the ecological value of the damaged natural resources and award damages accordingly. Such a method is desirable because it is based on the damage to the ecosystem as a whole, which is exactly the harm for which a state seeks to recover when non-commercial living natural resources are destroyed.